

(19)



JAPANESE PATENT OFFICE

# PATENT ABSTRACTS OF JAPAN

(11) Publication number: 2000329217 A

(43) Date of publication of application: 30.11.2000

(51) Int. Cl. F16H 55/22

B62D 3/04, F16H 1/16, F16H 55/06

(21) Application number: 11140385

(22) Date of filing: 20.05.1999

(71) Applicant: NSK LTD

(72) Inventor: OSHIMA MASAMICHI  
EDA HIROSHI

## (54) WORM WHEEL

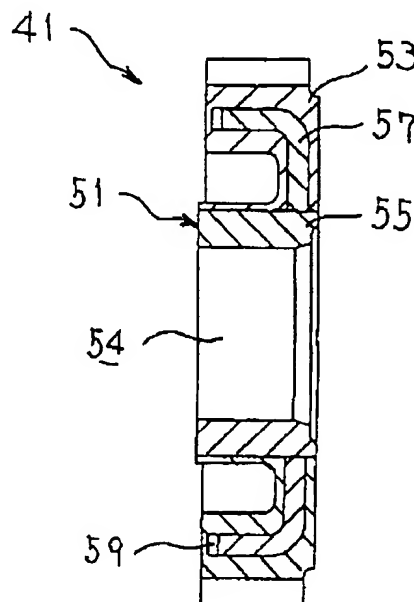
the wheel 51 is set into a metal mold.

COPYRIGHT: (C)2000,JPO

### (57) Abstract:

PROBLEM TO BE SOLVED: To provide a worm wheel which reduces the weight, improvement of dimensional accuracy, etc.

SOLUTION: This worm wheel 41 is formed by securing a synthetic resin-made gear ring 53 to the external periphery of a metal-made wheel 51. The wheel 51 is composed of a cylindrical hub 55 having a shaft hole 54 fitted with an output shaft in the center of rotation and a plate-shaped rim 57 having an L-shaped sectional shape secured to an external periphery of the hub 55. Relating to the hub 55 which is an article made of a steel pipe serving as a material through cutting work, the rim 57 is a press molding or forging article made of a steel plate serving as a material, and both the members are firmly secured by welding, caulking, bonding, etc. Irregularities 59 are formed over the total periphery in an axial direction end face of the rim 57. While the gear ring 53, using nylon, polypropylene, etc., as a material, is formed by injection molding in a shape covering the periphery of the rim 57 after



DIALOG(R)File 351:Derwent WPI  
(c) 2006 Thomson Derwent. All rts. reserv.

013631315 \*\*Image available\*\*  
WPI Acc No: 2001-115523/200113  
XRAM Acc No: C01-034829  
XRPX Acc No: N01-085025

**Worm wheel for motor vehicle, fixes synthetic resin made gear ring on periphery of rim which is fixed on outer circumferential surface of hub with central hole**

Patent Assignee: NIPPON SEIKO KK (NSEI : )  
Number of Countries: 001 Number of Patents: 001  
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 2000329217	A	20001130	JP 99140385	A	19990520	200113 B

Priority Applications (No Type Date): JP 99140385 A 19990520

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2000329217	A		7	F16H-055/22	

Abstract (Basic): JP 2000329217 A

NOVELTY - A metal wheel (51) has plate-shaped rim (57) with 'L' or 'T' shaped cross-section which is fixed on the outer circumferential surface of cylindrical hub with a shaft hole (54) at center. A synthetic resin-made gear ring (53) is fixed to the rim periphery.

USE - For motor vehicles.

ADVANTAGE - Since synthetic resin made gear ring is fixed to the periphery of rim, weight is reduced. Sufficient pressfitting load can be secured, by welding rib to the hub, hence dimensional accuracy is improved.

DESCRIPTION OF DRAWING(S) - The figure shows the half-cut cross-sectional chart of worm wheel.

Worm wheel (41)  
Metal wheel (51)  
Synthetic resin-made gear ring (53)  
Shaft hole (54)  
Hub (55)  
Rim (57)  
Roughness portion (59)  
pp; 7 DwgNo 11/24

Title Terms: WORM; WHEEL; MOTOR; VEHICLE; FIX; SYNTHETIC; RESIN; MADE; GEAR ; RING; PERIPHERAL; RIM; FIX; OUTER; CIRCUMFERENCE; SURFACE; HUB; CENTRAL ; HOLE

Derwent Class: A88; Q22; Q64

International Patent Class (Main): F16H-055/22

International Patent Class (Additional): B62D-003/04; F16H-001/16; F16H-055/06

File Segment: CPI; EngPI

Manual Codes (CPI/A-N): A12-H03; A12-T04C

Polymer Indexing (PS):

<01>

\*001\* 018; P0000

\*002\* 018; ND01; Q9999 Q9234 Q9212; Q9999 Q9289 Q9212; K9416; Q9999 Q7976 Q7885; B9999 B4842 B4831 B4740

?